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## (54) FUEL CELL POWER GENERATION EQUIPMENT

## (57) Abstract:

PURPOSE: To improve the controllability of a fuel cell power generation system by connecting by-pass lines and linking buffer tanks to these lines.

CONSTITUTION: At the time of start-up, heated medium such as reformer-heated exhaust gas is introduced to heating tubes 9, 10, thereby generating hydrogen through the heating of hydrogen occluded alloy 8 and starting the equipment with the hydrogen. In the even that the required hydrogen volume is bigger than the generated hydrogen volume, the shortage is supplemented by making buffer tanks 6, 7 release hydrogen through their

heating. In the case that the required hydrogen volume is smaller than the generated hydrogen volume (at the time of usual stoppage and that of emergency stoppage included), buffer tanks 6, 7 are cooled, and the excessive portion of hydrogen is occluded. In the case that the required hydrogen volume and the generated hydrogen volume are equal, the buffer tanks are by-passed through 4, 5, and hydrogen generated at a reformer 1 is directly supplied to the main body 2 of a fuel cell. Thus, occlusion and release are enforced through 2 or 3 buffer tanks installed. As for its output, load variation of electric power is information-processed by means of a controller 14, and flow of hydrogen is adjusted through respective controlling equipments to an appropriate level.

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